Sidi Mohammed Benabdellah University
National School of Applied Sciences Fez
Preparatory cycle 1

Subject: English for Engineering
Semester: 2
Pr. KHOUMSSI Khawla

English Online Class 2
Week 9:

Introduction to the field of Engineering

Main disciplines involved in Engineering

- Physics
- Mathematics
- Chemistry

Tasks involved in engineering

- The manufacture/ assembly of **engines, machine tool**s, **machine parts**.
- It is used to describe the creative application of scientific principles to **design, develop**, **construct** and forecast the behavior of **structures**, **apparatus**, machines**, manufacturing processes** of work.

Branches of engineering

- Chemical
- Civil
- Mechanical
- Electrical
- Electronic
- Mining
- Highway
- Hydraulic
- Petroleum production
- Industrial

Mechanical Engineer

- It is the study of motion, energy and force. The mechanical engineer seeks to control these elements by using a combination of material, human and economic resources to develop mechanical solutions that help satisfy the needs and wants of society.
- It centers on creating technologies to meet human needs.
- it tends to solve problems and create future solutions in health care, energy, transportation, world hunger, space exploration, climate change, etc.

Automotive engineer

- Automotive engineers **research**, **design** and **develop** vehicles and their subsystems. They work with sophisticated technologies to create products that thrill the senses and bring the freedom of mobility to the world.
- They are concerned with the development of passenger cars, trucks, buses, motorcycles or off-road vehicles. They do one or more of the following:
- Design new products or modify existing ones
- Troubleshoot and solve engineering problems
- Plan and design manufacturing processes

Industrial Engineer

- Industrial engineers are concerned with reducing production costs, increasing efficiency, improving the quality of products and services, ensuring worker health and safety, protecting the environment and complying with government regulations.

Electrical Engineer

- Electrical engineers study electronics, electromagnetism, and the application of electricity.
- Their products are used in medical technology, game systems, cell phones, robotics, cars, green technologies, and navigation systems.
- These engineers work in labs, offices, and industries. They develop systems for power generation, transmission, and distribution
- This field of engineering covers power switches (solar, wind, geothermal), design of power systems, and architectural planning

Electronics Engineer

- Electronics engineers create, design and develop everyday devices such as mobile phones, portable music devices and computers.

- They offer the chance to produce new innovations and developments in telecommunications, robotics, computing hardware, and power and electrical equipment.

Computer engineer

- A computer engineer tests computer components and systems by developing and designing memory devices, processors, circuit boards, and networks.
- They make computers more mobile or incorporate computers in other areas, such as machines or building materials.
- They solve issues that occur in computer hardware and aid in the advancement of computer technology.

Software Engineer

- Software engineering is the application of a quantifiable and systematic approach to the design, creation, development and maintenance of software. The software engineering process involves the structured set of activities required to develop a software system, such as design, specification, evolution and validation.
- A software engineer develops various applications that enable users to accomplish tasks on their personal computers and electronic devices.

Embedded systems engineer

- It is the process of controlling various devices and machines that are different from traditional computers, using software engineer. Integrating software engineering with non-computer devices leads to the formation of embedded systems.
- Embedded systems are typically popular in medical science, consumer electronics, manufacturing science, aviation, automotive technology.
- A typical embedded system requires a wide range of programming tools, microprocessors and operating systems.
- An **Embedded Engineer** deals with softwares related to Controllers and **embedded systems** but on the other hand, **software engineers** deals with softwares related to IT industries.

Nouns (used in engineering) in plural forms but are used with a singular verb

- Mathematics
- thermodynamics
- Physics
- Mechanics

Thank you

For any questions please contact me through:
kh. khoumssi@ gmail.com